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PASSWORD:
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SESSION RESUMED IN FILE 'HOME' AT 11:48:35 ON 04 MAR 2008
FILE 'HOME' ENTERED AT 11:48:35 ON 04 MAR 2008
COST IN U.S. DOLLARS SINCE FILE ENTRY TOTAL SESSION
FULL ESTIMATED COST 0.21 0.21

=> file reg
COST IN U.S. DOLLARS SINCE FILE ENTRY TOTAL SESSION
FULL ESTIMATED COST 0.21 0.21

FILE 'REGISTRY' ENTERED AT 11:48:44 ON 04 MAR 2008
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STRUCTURE FILE UPDATES: 3 MAR 2008 HIGHEST RN 1006431-93-1
DICTIONARY FILE UPDATES: 3 MAR 2008 HIGHEST RN 1006431-93-1

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REGISTRY includes numerically searchable data for experimental and
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http://www.cas.org/support/stngen/stndoc/properties.html

=>
Uploading C:\Documents and Settings\brobinson1\My
Documents\stnweb\Queries\zaswer.str

L1 STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1 STR
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

Updated Search

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Structure attributes must be viewed using STN Express query preparation.


=> s l1
SAMPLE SEARCH INITIATED 11:54:00 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -        2 TO ITERATE

100.0% PROCESSED        2 ITERATIONS                                 2 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:            2 TO      124
PROJECTED ANSWERS:               2 TO      124

L2            2 SEA SSS SAM L1

=> s l1 full
THE ESTIMATED SEARCH COST FOR FILE 'REGISTRY' IS 177.90 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N or END:y
FULL SEARCH INITIATED 11:54:05 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -       18 TO ITERATE

100.0% PROCESSED       18 ITERATIONS                                13 ANSWERS
SEARCH TIME: 00.00.01

L3            13 SEA SSS FUL L1

=> s l3 and takada, y?/au
NUMERIC VALUE NOT VALID 'TAKADA, Y?'
              0 TAKADA, Y?/AU
L4            0 L3 AND TAKADA, Y?/AU

=> file hcaplus
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                   188.11     188.32

FILE 'HCAPLUS' ENTERED AT 11:55:37 ON 04 MAR 2008
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FILE COVERS 1907 - 4 Mar 2008  VOL 148 ISS 10
FILE LAST UPDATED: 3 Mar 2008  (20080303/ED)
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This file contains CAS Registry Numbers for easy and accurate substance identification.

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=> s l3
L5          180 L3

=> s l3/prep
            180 L3
        4537224 PREP/RL
L6           10 L3/PREP
                (L3 (L) PREP/RL)

=> s l6 and takada, y?/au
            2785 TAKADA, Y?/AU
L7             1 L6 AND TAKADA, Y?/AU

=> d l7, ibib abs hitstr, 1

L7   ANSWER 1 OF 1  HCAPLUS  COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER:         2005:324169  HCAPLUS
DOCUMENT NUMBER:          142:392537
TITLE:                    Process for producing optically active
                          dihydropyridinephosphonic ester by crystallization of
                          racemate using optically active seed crystals
INVENTOR(S):              Takada, Yasutaka; Matsumoto, Hiroo
PATENT ASSIGNEE(S):       Nissan Chemical Industries, Ltd., Japan
SOURCE:                   PCT Int. Appl., 21 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 Japanese
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.          KIND   DATE        APPLICATION NO.         DATE
     ---------------     ----   --------    --------------------    --------
     WO 2005033117        A1    20050414    WO 2004-JP11607         20040812
          W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
              CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
              GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
              LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
              NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
              TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
          RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
              AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
              EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,
              SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
              SN, TD, TG
     EP 1676852           A1    20060705    EP 2004-771582          20040812
          R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
              IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR
     US 2006276437        A1    20061207    US 2006-573972          20060330
PRIORITY APPLN. INFO.:                      JP 2003-342761      A   20031001
                                            WO 2004-JP11607     W   20040812

OTHER SOURCE(S):          MARPAT 142:392537
AB   There is provided an economical process for efficiently producing an
     optically active isomer of efonidipine (I), the isomer being useful as an
```

antihypertensive agent or a therapeutic agent for angina pectoris. The above process for producing an optically active isomer of the compound I is characterized in that a racemate of the compound I is dissolved in a solvent to prepare a supersatd. solution and crystals of one of the optically active isomers of the compound I are added as seed crystals to the supersatd. solution to precipitate crystals of the optically active isomer whose seed crystals were added, or that a mixture of optically active isomers of the compound I in which either of the isomers is present in excess is dissolved in a solvent to prepare a supersatd. solution and crystals of the optically active isomer which is present in excess are added as seed crystals to the supersatd. solution to precipitate crystals of the optically active isomer present in excess.

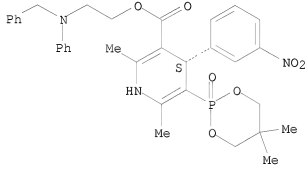
Thus, 1.00 g racemic I was dissolved in 25.0 g MeOH at 62°, cooled to 53° over 20 min, seeded with 10 mg (S)-(+)-I (100% ee), cooled to 33° over 45 min, and stirred at 30-33° for 1 h. The precipitated crystals were collected by filtration and dried at 50° under reduced pressure to give 144.8 mg (S)-(+)-I (88.37% ee) as light yellow crystal. The filtrate was concentrated to give 771.6 mg (R)-(-)-I (13.33% ee) as a yellow foam.

IT 128194-12-7P, (S)-(+)-Efonidipine 128194-13-8P, (R)-(-)-Efonidipine
RL: IMF (Industrial manufacture); PUR (Purification or recovery); SPN (Synthetic preparation); PREP (Preparation)
(process for producing optically active (S)-(+)-efonidipine as antihypertensive by crystallization of racemate from supersatd. solution using optically active seed crystals)

RN 128194-12-7 HCAPLUS

CN 3-Pyridinecarboxylic acid, 5-(5,5-dimethyl-2-oxido-1,3,2-dioxaphosphorinan-2-yl)-1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-, 2-[phenyl(phenylmethyl)amino]ethyl ester, (4S)- (9CI) (CA INDEX NAME)

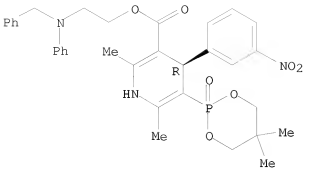
Absolute stereochemistry. Rotation (+).



RN 128194-13-8 HCAPLUS

CN 3-Pyridinecarboxylic acid, 5-(5,5-dimethyl-2-oxido-1,3,2-dioxaphosphorinan-2-yl)-1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-, 2-[phenyl(phenylmethyl)amino]ethyl ester, (4R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d his

(FILE 'HOME' ENTERED AT 11:47:49 ON 04 MAR 2008)

FILE 'REGISTRY' ENTERED AT 11:48:44 ON 04 MAR 2008
L1 STRUCTURE UPLOADED
L2 2 S L1
L3 13 S L1 FULL
L4 0 S L3 AND TAKADA, Y?/AU

FILE 'HCAPLUS' ENTERED AT 11:55:37 ON 04 MAR 2008
L5 180 S L3
L6 10 S L3/PREP
L7 1 S L6 AND TAKADA, Y?/AU

=> s l6 not l7
L8 9 L6 NOT L7

=> s l8 and matsumoto, h?/au
7407 MATSUMOTO, H?/AU
L9 3 L8 AND MATSUMOTO, H?/AU

=> d l9, ibib abs hitstr, 1-3

L9 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2003:177130 HCAPLUS
DOCUMENT NUMBER: 139:307832
TITLE: Preparation of efonidipine hydrochloride as antihypertensive agent
AUTHOR(S): Matsumoto, Hiroo
CORPORATE SOURCE: Nissan Chemical Industries, Ltd., Japan
SOURCE: Purosesu Kemisutori no Shintenkai (2003), 253-265. Shi Emu Shi Shuppan: Tokyo, Japan. CODEN: 69DQZN; ISBN: 4-88231-384-7
DOCUMENT TYPE: Conference; General Review
LANGUAGE: Japanese
AB A review on preparation of efonidipine hydrochloride as antihypertensive agent, covering new synthetic method for intermediate α-acetylstyrylphosphonate, determination of original drug, and preparation of optically

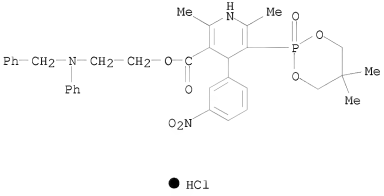
Updated Search

active isomer, etc.

IT 111011-53-1P, Efonidipine hydrochloride
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of efonidipine hydrochloride as antihypertensive agent)

RN 111011-53-1 HCAPLUS

CN 3-Pyridinecarboxylic acid, 5-(5,5-dimethyl-2-oxido-1,3,2-dioxaphosphorinan-2-yl)-1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-, 2-[phenyl(phenylmethyl)amino]ethyl ester, hydrochloride (1:1) (CA INDEX NAME)



L9 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1993:124669 HCAPLUS

DOCUMENT NUMBER: 118:124669

TITLE: Synthesis and crystal structure of optically active 2-[benzyl(phenyl)amino]ethyl 5-(5,5-dimethyl-2-oxo-1,3,2-dioxaphosphorinan-2-yl)-1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-3-pyridinecarboxylate (NZ-105)

AUTHOR(S): Sakoda, Ryozo; Matsumoto, Hiroo; Seto, Kiyotomo

CORPORATE SOURCE: Cent. Res. Inst., Nissan Chem. Ind. Ltd., Funabashi, 274, Japan

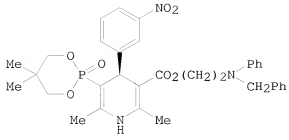
SOURCE: Chemical & Pharmaceutical Bulletin (1992), 40(9), 2377-81
CODEN: CPBTAL; ISSN: 0009-2363

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 118:124669

GI



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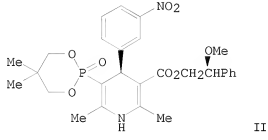


II

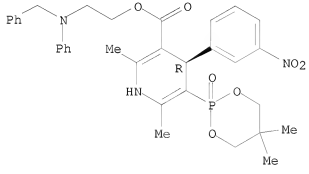
AB (S)-(Oxodioxaphosphorinanyl)(nitrophenyl)pyridinecarboxylate I ((S)-NZ-105) and the (R) isomer were synthesized through the fractional crystallization of (S)-Methoxyphenylethyl (oxodioxaphosphorinanyl)(nitrophenyl)pyridinecarboxylate II. Thus, II underwent N-methoxymethylation, transesterification, and demethoxymethylation to give I. The (R) isomer of II underwent the same treatment to give the (R) isomer of I. Calcium antagonism activity was found to reside in the S isomer from single crystal x-ray diffraction anal.

IT 128194-13-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and calcium antagonist activity of)

RN 128194-13-8 HCAPLUS

CN 3-Pyridinecarboxylic acid, 5-(5,5-dimethyl-2-oxido-1,3,2-dioxaphosphorinan-2-yl)-1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-, 2-[phenyl(phenylmethyl)amino]ethyl ester, (4R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

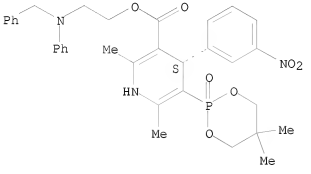


IT 128194-12-7P
RL: SPN (Synthetic preparation); PREP (Preparation)

Updated Search

(preparation, crystal structure, and calcium antagonist activity of)
RN 128194-12-7 HCAPLUS
CN 3-Pyridinecarboxylic acid, 5-(5,5-dimethyl-2-oxido-1,3,2-dioxaphosphorinan-2-yl)-1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-, 2-[phenyl(phenylmethyl)amino]ethyl ester, (4S)- (9CI) (CA INDEX NAME)

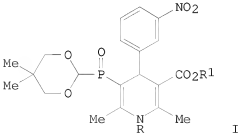
Absolute stereochemistry. Rotation (+).



L9 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1990:459536 HCAPLUS
DOCUMENT NUMBER: 113:59536
TITLE: Preparation of optically active (dihydropyridyl)phosphonate esters as antihypertensives and their pharmaceutical compositions
INVENTOR(S): Matsumoto, Hiroo; Kamikawa, Michimasaaki; Seto, Kyotomo; Sakota, Ryozo; Tanaka, Sakuya
PATENT ASSIGNEE(S): Nissan Chemical Industries, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 02011592	A	19900116	JP 1988-161909	19880629

PRIORITY APPLN. INFO.: JP 1988-161909 19880629
GI



I

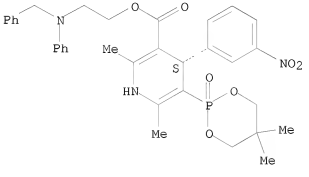
Updated Search

AB The title compds. (I; R = H, R1 = CH2CH2NPhCH2Ph) (II), especially (S)-II, their pharmaceutically compatible salts and solvates, are prepared (S,S)-I (R = H, R1 = CH2CHPhOMe) (preparation given) was stirred with 55% NaH in THF under cooling and then treated with ClCH2OMe to give 73% methoxymethyl derivative (S,S)-I (R = MeOCH2, R1 = CH2CHPhOMe), which was treated with PhCH2NPhCH2CH2ONa in C6H6 to give 45% (S)-I (R = MeOCH2) (III). Hydrolysis of III with 28% HCl-EtOH gave 99% (S)-II, which showed -log(ID50) of 8.86 as Ca antagonist in guinea pig. Also prepared and tested was (R)-II. Tablet, capsule, syrup, and powder formulations were given.

IT 128194-12-7P 128194-13-8P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of, as antihypertensive)

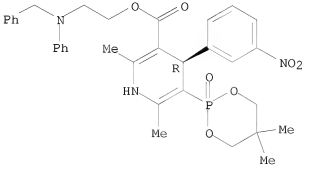
RN 128194-12-7 HCAPLUS
CN 3-Pyridinecarboxylic acid, 5-(5,5-dimethyl-2-oxido-1,3,2-dioxaphosphorinan-2-yl)-1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-, 2-[phenyl(phenylmethyl)amino]ethyl ester, (4S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



RN 128194-13-8 HCAPLUS
CN 3-Pyridinecarboxylic acid, 5-(5,5-dimethyl-2-oxido-1,3,2-dioxaphosphorinan-2-yl)-1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-, 2-[phenyl(phenylmethyl)amino]ethyl ester, (4R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



Updated Search

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=> d his

     (FILE 'HOME' ENTERED AT 11:47:49 ON 04 MAR 2008)

     FILE 'REGISTRY' ENTERED AT 11:48:44 ON 04 MAR 2008
L1             STRUCTURE UPLOADED
L2               2 S L1
L3              13 S L1 FULL
L4               0 S L3 AND TAKADA, Y?/AU

     FILE 'HCAPLUS' ENTERED AT 11:55:37 ON 04 MAR 2008
L5             180 S L3
L6              10 S L3/PREP
L7               1 S L6 AND TAKADA, Y?/AU
L8               9 S L6 NOT L7
L9               3 S L8 AND MATSUMOTO, H?/AU

=> s l8 not l9
L10              6 L8 NOT L9

=> d l10, ibib abs hitstr, 1-6

L10  ANSWER 1 OF 6  HCAPLUS  COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER:        1996:325198  HCAPLUS
DOCUMENT NUMBER:         125:86734
TITLE:                   Asymmetric synthesis of (S)-(+)- and (R)-(-)-NZ-105
                         through the modified Michaelis-Arbuzov rearrangement
                         as a key step
AUTHOR(S):               Kato, Tatsuhisa; Tejima, Mamiko; Ebiike, Hirosato;
                         Achiwa, Kazuo
CORPORATE SOURCE:        School Pharmaceutical Sciences, University Shizuoka,
                         Shizuoka, 422, Japan
SOURCE:                  Chemical & Pharmaceutical Bulletin (1996), 44(5),
                         1132-1134
                         CODEN: CPBTAL; ISSN: 0009-2363
PUBLISHER:               Pharmaceutical Society of Japan
DOCUMENT TYPE:           Journal
LANGUAGE:                English
OTHER SOURCE(S):         CASREACT 125:86734
GI
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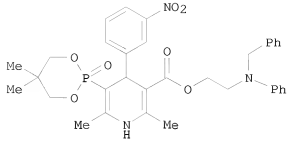
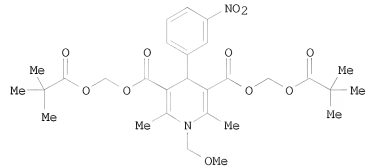
Updated Search



I



II

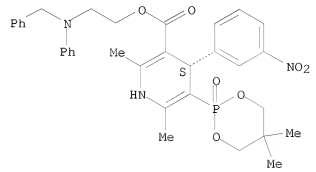
AB The asym. synthesis of the (S)-(+)- and (R)-(-)-NZ-105 (I) from the prochiral pyridine compound II was realized via a modified Hunsdiecker reaction followed by the modified Michaelis-Arbuzov reaction with zero valent palladium.

IT 128194-12-7P 128194-13-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(asym. synthesis of NZ-105)

RN 128194-12-7 HCAPLUS

CN 3-Pyridinecarboxylic acid, 5-(5,5-dimethyl-2-oxido-1,3,2-dioxaphosphorinan-2-yl)-1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-, 2-[phenyl(phenylmethyl)amino]ethyl ester, (4S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

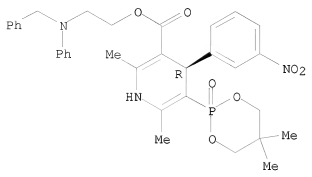


RN 128194-13-8 HCAPLUS

CN 3-Pyridinecarboxylic acid, 5-(5,5-dimethyl-2-oxido-1,3,2-dioxaphosphorinan-2-yl)-1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-, 2-[phenyl(phenylmethyl)amino]ethyl ester, (4R)- (9CI) (CA INDEX NAME)

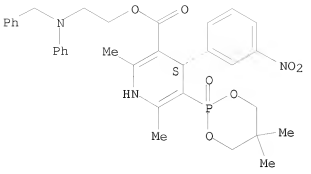
Updated Search

Absolute stereochemistry. Rotation (-).



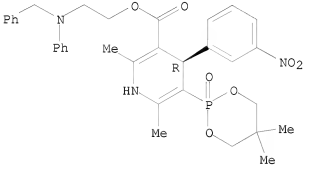
L10 ANSWER 2 OF 6 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1995:772416 HCAPLUS
DOCUMENT NUMBER: 123:340043
TITLE: Lipase-catalyzed enantioselective synthesis of (R)- and (S)-2-[benzyl(phenyl)amino]ethyl 5-(5,5-dimethyl-2-oxo-1,3,2-dioxaphosphorinan-2-yl)-1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-3-pyridinecarboxylate (NZ 105)
AUTHOR(S): Ebiike, Hirosato; Yamazaki, Yukiyoshi; Achiwa, Kazuo
CORPORATE SOURCE: Sch. Pharm. Sci., Univ. Shizuoka, Shizuoka, 422, Japan
SOURCE: Chemical & Pharmaceutical Bulletin (1995), 43(7), 1251-3
CODEN: CPBTAL; ISSN: 0009-2363
PUBLISHER: Pharmaceutical Society of Japan
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 123:340043
AB Optically active NZ 105 was smoothly prepared by enantioselective hydrolysis of the propionyloxymethyl ester by lipase and following esterification.
IT 128194-12-7P 128194-13-8P
RL: BPN (Biosynthetic preparation); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(lipase-catalyzed enantioselective preparation of NZ 105)
RN 128194-12-7 HCAPLUS
CN 3-Pyridinecarboxylic acid, 5-(5,5-dimethyl-2-oxido-1,3,2-dioxaphosphorinan-2-yl)-1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-, 2-[phenyl(phenylmethyl)amino]ethyl ester, (4S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



RN 128194-13-8 HCAPLUS
CN 3-Pyridinecarboxylic acid, 5-(5,5-dimethyl-2-oxido-1,3,2-dioxaphosphorinan-2-yl)-1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-, 2-[phenyl(phenylmethyl)amino]ethyl ester, (4R)- (9CI) (CA INDEX NAME)

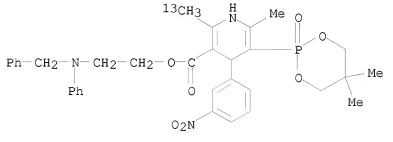
Absolute stereochemistry. Rotation (-).



L10 ANSWER 3 OF 6 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1995:440280 HCAPLUS
DOCUMENT NUMBER: 123:9302
TITLE: Transformation of 1,4-dihydropyridine ring of calcium antagonist NZ-105 into cyclohexenone ring
AUTHOR(S): Kamikawaji, Yoshimasa; Sakoda, Ryozo; Seto, Kiyotomo
CORPORATE SOURCE: Central Res. Inst., Nissan Chem. Industries, Ltd., Chiba, 274, Japan
SOURCE: Chemical & Pharmaceutical Bulletin (1995), 43(2), 315-17
CODEN: CPBTAL; ISSN: 0009-2363
PUBLISHER: Pharmaceutical Society of Japan
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 123:9302
AB On hydrolysis of the calcium antagonist, 2-(N-benzyl-N-phenylamino)ethyl 5-(5,5-dimethyl-2-oxo-1,3,2-dioxaphosphorinan-2-yl)-1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)pyridine-3-carboxylate hydrochloride ethanol (NZ-105 1.HCl.EtOH) in 35% hydrochloric acid, the 1,4-dihydropyridine ring was transformed to a cyclohexenone ring, affording cyclohexenone phosphonates.
IT 163808-73-9P

Updated Search

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 163808-73-9 HCAPLUS
CN 3-Pyridinecarboxylic acid, 5-(5,5-dimethyl-2-oxido-1,3,2-dioxaphosphorinan-2-yl)-1,4-dihydro-6-methyl-2-(methyl-13C)-4-(3-nitrophenyl)-, 2-[phenyl(phenylmethyl)amino]ethyl ester (9CI) (CA INDEX NAME)



L10 ANSWER 4 OF 6 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1993:124668 HCAPLUS
DOCUMENT NUMBER: 118:124668
TITLE: Synthesis of 1,4-dihydropyridine-5-phosphonates and their calcium-antagonistic and antihypertensive activities: novel calcium-antagonist 2-[benzyl(phenyl)amino]ethyl 5-(5,5-dimethyl-2-oxo-1,3,2-dioxaphosphorinan-2-yl)-1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-3-pyridinecarboxylate hydrochloride ethanol (NZ-105) and its crystal structure
AUTHOR(S): Sakoda, Ryozo; Kamikawaji, Yoshimasa; Seto, Kiyotomo
CORPORATE SOURCE: Cent. Res. Inst., Nissan Chem. Ind. Co., Ltd., Funabashi, 274, Japan
SOURCE: Chemical & Pharmaceutical Bulletin (1992), 40(9), 2362-9
CODEN: CPBTAL; ISSN: 0009-2363
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 118:124668
GI

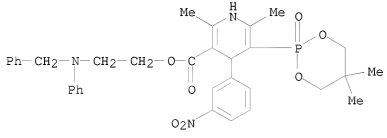
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The effect of the 3-carboxylic ester variation in 2,2-dimethyltrimethylene 3-alkoxycarbonyl-4-aryl-1,4-dihydro-2,6-dimethyl-5-pyridinephosphonates, e.g., I (R = 3-NO2, 3-Cl, 2-OCHF2, 2-CF3) and II [R1 = Me, Me2CH, hexyl, octyl, nonyl, decyl, dodecyl, (CH2)6NMeCH2Ph, (CH2)2NPhCH2Ph, (CH2)2N(CH2Ph)2, Q, Q1], was investigated in relation to the calcium-antagonistic and antihypertensive activities: the analogs containing the alkyl groups of not more than 12 carbons and an amino functionality in the carboxylic-ester moiety were synthesized to be examined for biol. activities. Among them, 2-[benzyl(phenyl)amino]ethyl 5-(5,5-dimethyl-2-oxo-1,3,2-dioxaphosphorinan-2-yl)-1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-3-pyridinecarboxylate hydrochloride ethanol (III) (NZ-105) showed particularly beneficial activities and was selected for further

pharmacol. studies and clin. development. Some aspects of the structure-activity relationships and solid-state structure of NZ-105 by x-ray crystallog. anal. are described.

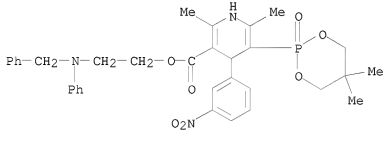
IT 111011-53-1P 111011-63-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and calcium antagonistic and hypertensive activity of)

RN 111011-53-1 HCAPLUS
CN 3-Pyridinecarboxylic acid, 5-(5,5-dimethyl-2-oxido-1,3,2-dioxaphosphorinan-2-yl)-1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-, 2-[phenyl(phenylmethyl)amino]ethyl ester, hydrochloride (1:1) (CA INDEX NAME)



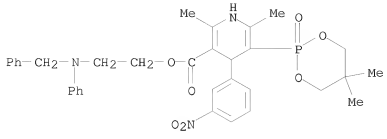
● HCl

RN 111011-63-3 HCAPLUS
CN 3-Pyridinecarboxylic acid, 5-(5,5-dimethyl-2-oxido-1,3,2-dioxaphosphorinan-2-yl)-1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-, 2-[phenyl(phenylmethyl)amino]ethyl ester (CA INDEX NAME)



IT 146345-51-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation, crystal and mol. structure, and calcium antagonistic and antihypertensive activity of)

RN 146345-51-9 HCAPLUS
CN 3-Pyridinecarboxylic acid, 5-(5,5-dimethyl-2-oxido-1,3,2-dioxaphosphorinan-2-yl)-1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-, 2-[phenyl(phenylmethyl)amino]ethyl ester, monohydrochloride, monohydrate (9CI) (CA INDEX NAME)



● HCl

● H_2O

L10 ANSWER 5 OF 6 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1990:538501 HCAPLUS
DOCUMENT NUMBER: 113:138501
TITLE: Pharmaceutical composition of dihydropyridine compound
INVENTOR(S): Miyajima, Masaharu; Yamaguchi, Yukiya; Tsunematsu, Takao; Oda, Toshihisa
PATENT ASSIGNEE(S): Zeria Pharmaceutical Co., Ltd., Japan; Nissan Chemical Industries, Ltd.
SOURCE: Eur. Pat. Appl., 10 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 344603	A1	19891206	EP 1989-109381	19890524
EP 344603	B1	19911023		
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
JP 02049728	A	19900220	JP 1989-50471	19890302
JP 2528706	B2	19960828		
AT 68699	T	19911115	AT 1989-109381	19890524
ES 2051920	T3	19940701	ES 1989-109381	19890524
CA 1332152	C	19940927	CA 1989-600631	19890525
US 4983593	A	19910108	US 1989-358144	19890530

PRIORITY APPLN. INFO.:

JP 1988-132262	A	19880530
JP 1989-50471	A	19890302
EP 1989-109381	A	19890524

OTHER SOURCE(S): CASREACT 113:138501
AB 5-(5,5-Dimethyl-1,3,2-dioxaphosphorinane-2-yl)-1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-3-pyridine carboxylic acid 2-[phenyl-(phenylmethyl)amino]ethyl ester P-oxide.HCl.ethanol solvate (1:1) (I) possessing hypotensive activity, is formulated with hydroxypropyl Me cellulose acetate succinate (II) to improve the water-solubility I 4 and II 12 g were dissolved into 100 mL of EtOH-CH2Cl2 (1:4) and 30 g lactose was added to the mixture The whole was dried and pulverized; the powder 23 g

was mixed with corn starch 10.7 g and talc 0.3 g and filled into capsules (total 340 mg/capsule or 20 mg I/capsule). A dissoln. test (according to Japanese Pharmacopeia) of the above capsules resulted in higher dissoln. rate than control capsules using other polymeric compds. instead of II. Also, in vivo studies with beagle dogs showed that the capsules provided an enhanced bioavailability.

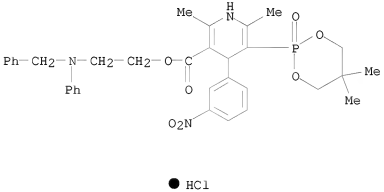
IT 111011-76-8P, NZ 105 ethanolate
RL: PREP (Preparation)
(preparation of, capsules containing hydroxypropyl Me cellulose acetate succinate and, for water-solubility enhancement)

RN 111011-76-8 HCAPLUS

CN 3-Pyridinecarboxylic acid, 5-(5,5-dimethyl-2-oxido-1,3,2-dioxaphosphorinan-2-yl)-1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-, 2-[phenyl(phenylmethyl)amino]ethyl ester, monohydrochloride, compd. with ethanol (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 111011-53-1
CMF C34 H38 N3 O7 P . Cl H



● HCl

CM 2

CRN 64-17-5
CMF C2 H6 O

L10 ANSWER 6 OF 6 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER:	1987:637009 HCAPLUS
DOCUMENT NUMBER:	107:237009
TITLE:	Preparation of dihydropyridine-5-phosphonic acid cyclic propylene esters as antihypertensives and vasodilators
INVENTOR(S):	Seto, Kiyotomo; Tanaka, Sakuya; Sakoda, Ryozo; Sakai, Tosinori; Masuda, Yukinori
PATENT ASSIGNEE(S):	Nissan Chemical Industries, Ltd., Japan

Updated Search

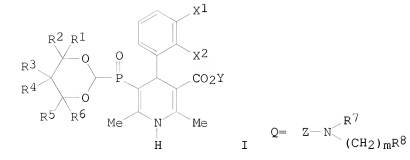
SOURCE: Eur. Pat. Appl., 28 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 6
PATENT INFORMATION:

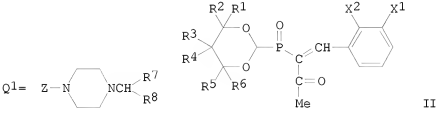
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 230944	A1	19870805	EP 1987-100602	19870119
EP 230944	B1	19900207		
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
JP 62169795	A	19870725	JP 1986-11255	19860122
JP 06055751	B	19940727		
US 4885284	A	19891205	US 1986-851158	19860414
CA 1304379	C	19920630	CA 1986-507085	19860418
CN 87100286	A	19880113	CN 1987-100286	19870114
CN 1016063	B	19920401		
AU 8767635	A	19870723	AU 1987-67635	19870116
AU 589485	B2	19891012		
AT 50263	T	19900215	AT 1987-100602	19870119
WO 8704439	A1	19870730	WO 1987-JP32	19870120
W: BG, BR, DK, FI, HU, KR, NO, RO, SU				
ZA 8700403	A	19870930	ZA 1987-403	19870120
HU 44570	A2	19880328	HU 1987-768	19870120
HU 196605	B	19881228		
JP 63233992	A	19880929	JP 1987-10230	19870120
JP 06099458	B	19941207		
IL 81315	A	19911121	IL 1987-81315	19870120
DD 276873	A5	19900314	DD 1987-299387	19870121
FI 8703503	A	19870812	FI 1987-3503	19870812
FI 85491	B	19920115		
FI 85491	C	19920427		
SU 1586519	A3	19900815	SU 1987-4203193	19870814
DK 8704280	A	19870817	DK 1987-4280	19870817
DK 168821	B1	19940620		
NO 8703453	A	19870817	NO 1987-3453	19870817
NO 170728	B	19920817		
NO 170728	C	19921125		

PRIORITY APPLN. INFO.:

JP 1986-11255	A	19860122
JP 1986-12755	A	19860123
US 1986-851158	A	19860414
JP 1986-280159	A	19861125
EP 1987-100602	A	19870119
WO 1987-JP32	W	19870120

OTHER SOURCE(S): CASREACT 107:237009; MARPAT 107:237009
GI



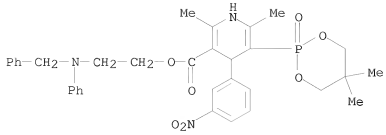


AB Title compds. I and their pharmaceutically acceptable salts (R1–R6 = H, C1–4 alkyl; one of X1, X2 = NO2, F, Cl, OCHF2, CF3 and other is H; or X1 = X2 = Cl; Y = Q, Q1; Z = C2–6 alkylene; R7, R8 = chloro–, fluoro–, or alkoxyphenyl; m = 0–4) are prepared as vasodilators and antihypertensives. Refluxing a PhMe solution of 13.4 g 2-(N-benzyl-N-phenylamino)ethyl 3-aminocrotonate and 14.7 g II (R1 = R2 = R5 = R6 = H, R3 = R4 = Me, X1 = NO2, X2 = H) for 10 h gave I [R1 = R2 = R5 = R6 = X2 = H, R3 = R4 = Me, X1 = NO2, Y = CH2CH2N(Ph)(CH2Ph)] (III). At 10 mg/kg oral with spontaneously hypertensive rats γ-III.HCl showed a slower onset and a longer lasting duration of action than Nicardipine.HCl. Tablets (1000) were formulated from γ-III.HCl 20.0, lactose 70.0, corn starch 25.0, cellulose 25.0, polyvinylpyrrolidone 8.0, and Mg stearate 2.0 g.

IT 111011-53-1P 111011-63-3P 111011-75-7P
111011-76-8P 111011-77-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, as vasodilator and antihypertensive)

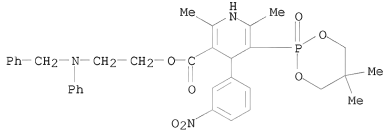
RN 111011-53-1 HCAPLUS

CN 3-Pyridinecarboxylic acid, 5-(5,5-dimethyl-2-oxido-1,3,2-dioxaphosphorinan-2-yl)-1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-, 2-[phenyl(phenylmethyl)amino]ethyl ester, hydrochloride (1:1) (CA INDEX NAME)



● HCl

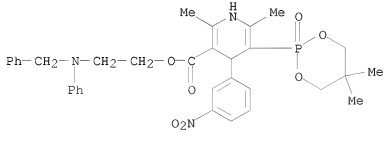
RN 111011-63-3 HCAPLUS
CN 3-Pyridinecarboxylic acid, 5-(5,5-dimethyl-2-oxido-1,3,2-dioxaphosphorinan-2-yl)-1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-, 2-[phenyl(phenylmethyl)amino]ethyl ester (CA INDEX NAME)



RN 111011-75-7 HCAPLUS
CN 3-Pyridinecarboxylic acid, 5-(5,5-dimethyl-2-oxido-1,3,2-dioxaphosphorinan-2-yl)-1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-, 2-[phenyl(phenylmethyl)amino]ethyl ester, compd. with methylbenzene (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 111011-63-3
CMF C34 H38 N3 O7 P



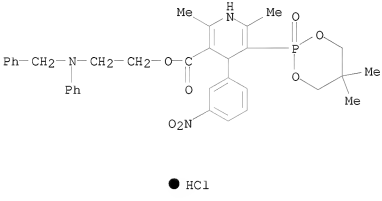
CM 2

CRN 108-88-3
CMF C7 H8

RN 111011-76-8 HCAPLUS
CN 3-Pyridinecarboxylic acid, 5-(5,5-dimethyl-2-oxido-1,3,2-dioxaphosphorinan-2-yl)-1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-, 2-[phenyl(phenylmethyl)amino]ethyl ester, monohydrochloride, compd. with ethanol (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 111011-53-1
CMF C34 H38 N3 O7 P . Cl H



CM 2

CRN 64-17-5
CMF C2 H6 O

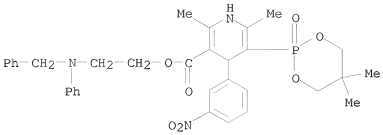
RN 111011-77-9 HCAPLUS
CN 3-Pyridinecarboxylic acid, 5-(5,5-dimethyl-2-oxido-1,3,2-dioxaphosphorinan-2-yl)-1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-, 2-[phenyl(phenylmethyl)amino]ethyl ester, monohydrochloride, compd. with acetonitrile (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 111011-63-3

Updated Search

CMF C34 H38 N3 O7 P



CM 2

CRN 75-05-8
CMF C2 H3 N

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FILE LAST UPDATED: 01 May 1997 (19970501/UP)

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     FILE 'REGISTRY' ENTERED AT 11:48:44 ON 04 MAR 2008
L1              STRUCTURE UPLOADED
L2            2 S L1
L3           13 S L1 FULL
L4            0 S L3 AND TAKADA, Y?/AU

     FILE 'HCAPLUS' ENTERED AT 11:55:37 ON 04 MAR 2008
L5          180 S L3
L6           10 S L3/PREP
L7            1 S L6 AND TAKADA, Y?/AU
L8            9 S L6 NOT L7
L9            3 S L8 AND MATSUMOTO, H?/AU
L10           6 S L8 NOT L9

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L11           0 L3
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Updated Search